

- RATED 1W OUTPUT
- HIGH POWER DENSITY
- 7PIN SIP /14PIN DIP PACKAGE
- SINGLE OUTPUT
- INDUSTRIAL STANDARD PIN-OUT
- NO HEAT SINK REQUIRED
- 3K VDC ISOLATION
- FIXED INPUT, UNREGULATED OUTPUT
- 1W-2W POWER
- PCB MOUNTED TYPE

ISO9001:2008

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## ELECTRICAL SPECIFICATIONS

All specifications tested typically @ 25°C, humidity<75%, nominal input and rated output unless otherwise noted.

### OUTPUT SPECIFICATIONS

| Items                    | Testing condition            | Min  | Typ       | Max        |
|--------------------------|------------------------------|------|-----------|------------|
| Output accuracy          | At full load and nominal Vin |      |           | ±5%        |
| Output power             |                              | 0.2W | 2W        | 2W         |
| Line regulation          | For Vin change of 1%         |      |           | 1.2        |
| Load regulation          | From 20% to full load        |      | 10%       | 15%        |
| Ripple and noise         | 20MHz bandwidth              |      |           | 150 mV p-p |
| Temperature drift        |                              |      |           | ±0.02 %/°C |
| Minimum load             |                              |      |           | 10%        |
| Switching frequency      |                              |      | 100KHz    |            |
| Over-load protection     | 10% at FL at Nominal Input   |      | 120       |            |
| Short circuit protection |                              |      | Momentary |            |

### INPUT SPECIFICATIONS

| Items:              | Testing condition     | Min | Typ       | Max |
|---------------------|-----------------------|-----|-----------|-----|
| Input voltage range | 3.3 VDC nominal input |     | 3-3.6     |     |
|                     | 5 VDC nominal input   |     | 4.5-5.5   |     |
|                     | 9 VDC nominal input   |     | 8.1-9.9   |     |
|                     | 12VDC nominal input   |     | 10.8-13.2 |     |
|                     | 15 VDC nominal input  |     | 13.5-16.5 |     |
|                     | 24VDC nominal input   |     | 21.6-26.4 |     |

### COMMON SPECIFICATIONS

| Items                       |                     | Min   | Typ.            | Max    |
|-----------------------------|---------------------|-------|-----------------|--------|
| Operating temperature range |                     | -40°C |                 | +85°C  |
| Storage temperature range   |                     | -55°C |                 | +125°C |
| Humidity                    |                     |       |                 | <95%   |
| Cooling                     | Free Air Convection |       |                 |        |
| Isolation voltage (VDC)     | Input to Output     |       | 3,000           |        |
| Isolation resistance (ohms) |                     |       | 10 <sup>9</sup> |        |
| Isolation capacitance (pF)  |                     |       |                 | 30     |

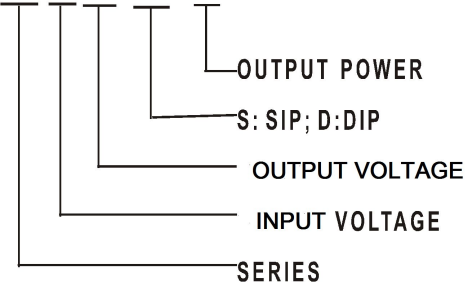
|                                                |                                                                   |    |    |
|------------------------------------------------|-------------------------------------------------------------------|----|----|
| <b>Efficiency (%)</b>                          | See Product List                                                  | 72 | 80 |
| <b>Case material</b>                           | Non-conductive black plastic                                      |    |    |
| <b>Potting material</b>                        | Epoxy Resin UL94-V0                                               |    |    |
| <b>Packing material</b>                        | Tube                                                              |    |    |
| <b>Dimension (mm / inch)</b><br><b>(L*W*H)</b> | SIP: 19.6*6.00*10.0 mm 19.6*7.00*10.0 mm<br>DIP: 20.4*10.00*8.2mm |    |    |
| <b>Weight (g)</b>                              | 2                                                                 |    |    |
| <b>MTBF (Hrs)</b>                              | >1,000,000                                                        |    |    |

**TYPICAL PRODUCT LIST**

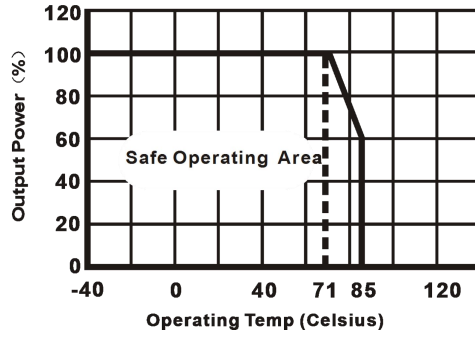
| Part Number | Input         |                    |                      | Output        |                      | Efficiency<br>(% Typ.) | Package |
|-------------|---------------|--------------------|----------------------|---------------|----------------------|------------------------|---------|
|             | Voltage (VDC) | Current<br>No Load | Current<br>Full Load | Voltage (VDC) | Current<br>(Max. mA) |                        |         |
| F0503S/D-1W | 5             | 14                 | 363                  | 3.3           | 303                  | 72                     | SIP/DIP |
| F0505S/D-1W | 5             | 26                 | 266                  | 5             | 200                  | 75                     | SIP/DIP |
| F0512S/D-1W | 5             | 18                 | 254                  | 12            | 84                   | 70                     | SIP/DIP |
| F1205S/D-1W | 12            | 11                 | 119                  | 5             | 200                  | 70                     | SIP/DIP |
| F1212S/D-1W | 12            | 10                 | 104                  | 12            | 84                   | 80                     | SIP/DIP |
| F1215S/D-1W | 12            | 15                 | 107                  | 15            | 68                   | 78                     | SIP/DIP |
| F2405S/D-1W | 24            | 5                  | 55                   | 5             | 200                  | 75                     | SIP/DIP |
| F2412S/D-1W | 24            | 7                  | 54                   | 12            | 84                   | 77                     | SIP/DIP |
| F2415S/D-1W | 24            | 8                  | 55                   | 15            | 76                   | 76                     | SIP/DIP |
| F0503S/D-2W | 5             | 28                 | 727                  | 3.3           | 606                  | 78                     | SIP/DIP |
| F0505S/D-2W | 5             | 28                 | 555                  | 5             | 400                  | 75                     | SIP/DIP |
| F0512S/D-2W | 5             | 26                 | 470                  | 12            | 167                  | 80                     | SIP/DIP |
| F1205S/D-2W | 12            | 22                 | 228                  | 5             | 400                  | 75                     | SIP/DIP |
| F1212S/D-2W | 12            | 20                 | 208                  | 12            | 167                  | 80                     | SIP/DIP |
| F1215S/D-2W | 12            | 18                 | 204                  | 15            | 133                  | 78                     | SIP/DIP |
| F2405S/D-2W | 24            | 10                 | 113                  | 5             | 400                  | 75                     | SIP/DIP |
| F2412S/D-2W | 24            | 9                  | 101                  | 12            | 167                  | 82                     | SIP/DIP |
| F2415S/D-2W | 24            | 8                  | 100                  | 15            | 133                  | 85                     | SIP/DIP |

MODEL SELECTION GUIDE

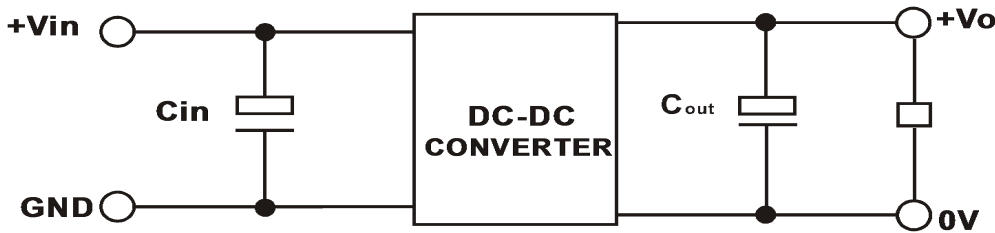
F 05 05 S/D-1W



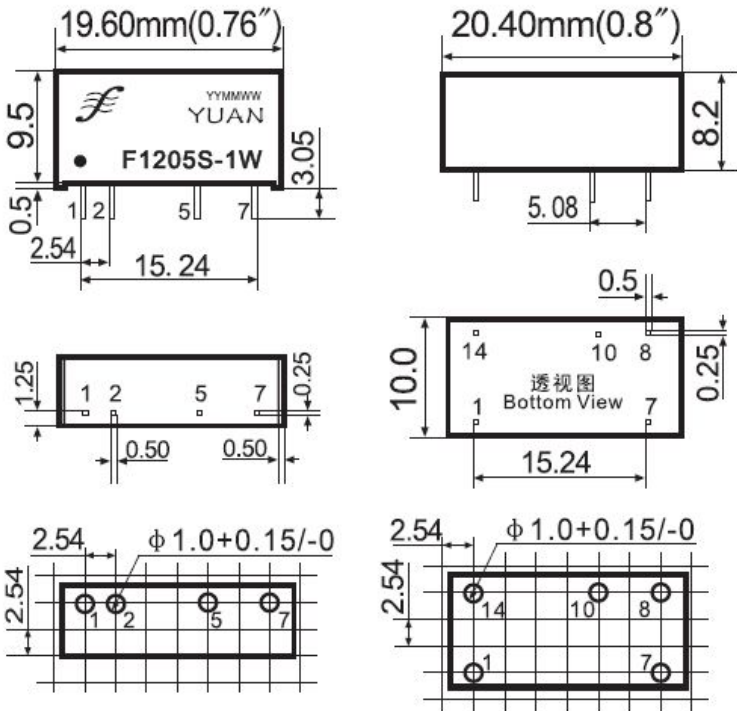
TEMPERATURE DERATING GRAPH



TYPICAL CONNECTION



OUTLINE DIMENSION



PINS DESCRIPTION

| SIP | PIN DEFINITION |        | DIP |
|-----|----------------|--------|-----|
| 1   | +Vin           | Input  | 14  |
| 2   | GND            | Input  | 1   |
| 5   | 0V             | Common | 10  |
| 7   | +Vo            | Output | 8   |

SIP 1W: 19.6 x 6.0 x 10.0 mm  
SIP 2W: 19.6 x 7.0 x 10.0 mm  
DIP 1W: 20.4 x 10.0 x 8.2 mm  
DIP 2W: 20.4 x 10.0 x 8.2 mm

Note: The specification is subject to change without notice.